DELTA 12

User's Manual rel 1.0 **GB**

D.T.S. Illuminazione srl - ITALY
http://www.dts-lighting.it

CE IP65

The Lighting Company

Made in Italy

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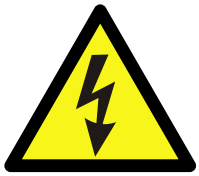
1- SYMBOLS

Graphic symbols used on this manual:

THIS SYMBOL INDICATES A HOT SURFACE



THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"

THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation, use and maintenance.
The device is not for domestic use and must be installed by a qualified electrician or experienced person.
The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

DELTA 12 FC is the brightest LED colour changer in its category (22.050 Lux at 5 m).
DELTA 12 FC light source is composed of 48 LEDs Full Colour (RGBW) with a total luminous flux of 26.000 lumens. The multi-chip RGBW Full Colour generation ensures an enhanced luminous quality, offering perfect uniformity of light beams, plus high mixing quality for RGBW colours.
The unit is available with Ultra-Narrow, Narrow, Medium and Wide lenses, plus different holographics filters offering a variety of projection angles.
The DELTA 12 FC can generate 16 million colours; colour temperature can be varied from 2700°K to 6500°K.
The unit is also available as DELTA 12 CT, featuring 48 x Dynamic White LEDs.
The unit is fully rated IP65. The unit has an electronic full-range AC 90-260 V / 50-60 Hz power supply (reliable operation even in the case of voltage drops).
The unit can operate in vertical, horizontal or inverted positions, and can be positioned on the floor or ground, or fitted to trusses.

D.T.S. Product codes:

03.LDF006.F08	DELTA 12 FC (FULL RGBW LEDs) *Ultra-Narrow lenses
03.LDF006.F12	DELTA 12 FC (FULL RGBW LEDs) *Narrow lenses
03.LDF006.F12WS	DELTA 12 FC (FULL RGBW LEDs) *Narrow lenses *Wireless DMX ready
03.LDF006.F25	DELTA 12 FC (FULL RGBW LEDs) *Medium flood lenses
03.LDF006.F25WS	DELTA 12 FC (FULL RGBW LEDs) *Medium flood lenses *Wireless DMX ready
03.LDF006.F45	DELTA 12 FC (FULL RGBW LEDs) *Wide flood lenses
03.LDF006.F45WS	DELTA 12 FC (FULL RGBW LEDs) *Wide Flood lenses *Wireless DMX ready
03.LDF006.FW08	DELTA 12 CT (FULL WHITE LEDs) *Ultra-Narrow lenses
03.LDF006.FW12	DELTA 12 CT (FULL WHITE LEDs) *Narrow lenses
03.LDF006.FW25	DELTA 12 CT (FULL WHITE LEDs) *Medium flood lenses
03.LDF006.FW45	DELTA 12 CT (FULL WHITE LEDs) *Wide flood lenses

LED technology
DELTA 12 FC: 48 x FULL RGBW LEDs; 22.050 Lux at 5 m (Ultra-Narrow lenses); 17.728 Lumens; CRI > 90
DELTA 12 CT: 48 x FULL WHITE LEDs; 31.972 Lux at 5 m (Ultra-Narrow lenses); 25.700 Lumens; CRI > 90

Colour temperature range: 2700°K - 6500°K
LEDs average lifespan: 100.000 hours
No infrared / no ultraviolet emissions

Optical group
Four interchangeable lenses sets available:
Ultra-Narrow; Narrow; Medium flood and Wide flood
8 additional (optional) holographic filters available (user interchangeable): 10° / 20° / 30° / 40° / 60° / 80° / 60° x 10° / 75° x 45°

User interface
7 segments display + 4 soft keys; Infrared remote control
Independent operation
Fully programmable via built-in user interface
Master or Slave capability (chains of up to 32 interconnected units)

Control
Remotely controlled by cable or wireless (wireless on request); RDM;
USITT DMX 512 serial digital protocol (reception / transmission)
10 DMX channels

Protection
Full IP65 protection level

4- TECHNICAL FEATURES

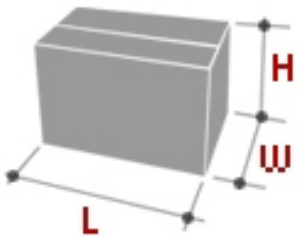
Power supply / consumption
Full-range AC 90-260 V / 50-60 Hz
Power consumption: 500W
Thermal
Operating ambient temperature: -10° / +40°
Weight
18 Kg

Certifications and safety
CE certification; LED class: Class 2 LED product

Dimensions

Packaging Dimensions (LxWxH)
630 x 500 x 660 mm
Weight: 20 Kg

Unit Dimensions (LxWxH)
454x205x443mm
Weight: 18 Kg



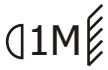
5- ACCESSORIES

Optional (on request)

- Lenses set Ultra-Narrow (D.T.S. Code: 03.LK.130)
- Lenses set Narrow (D.T.S. Code: 03.LK.127)
- Lenses set Medium flood (D.T.S. Code: 03.LK.128)
- Lenses set Wide flood (D.T.S. Code: 03.LK.129)
- Diffusion Frost Glass (Code: 0506V022.F)
- Wireless DMX receiver card (Code: 03.LA.012)
- External 2dBi IP65 Omni-directional Antenna (Code: 0508A040)
- "C" Clamp G60 black (max. load 50Kg) (Code: 0521A004)
- "C" Clamp G60 chrome (max. load. 50Kg) (Code: 0521A004.20)
- Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (Code: 0521A010)

6- IMPORTANT SAFETY INFORMATION

6.1 Fire prevention:

-Never locate the fixture on any flammable surface.
-Minimum distance from flammable materials: 1 m.
-Minimum distance from the closest illuminable surface: 1 m. 

-Replace any blown or damaged fuses only with those of identical value (6,3A T).
Refer to the wiring diagrams if there is any doubt.
-Connect the projector to mains power via a thermal magnetic circuit breaker.

6.2 Prevention of electric shock:

-High voltage is present inside the unit. Isolate the projector from the mains supply prior to performing any function which involves touching the inside of the unit.
-The level of technology inherent in the DELTA 12 requires the assistance of specialised personnel for all servicing. Please refer to an authorised D.T.S. service centre.
-A good earth connection is essential for proper functioning of the projector.
Never connect the unit without proper earth connection.
-The fixture should be located in places with a good air ventilation.

6.3 Protection against direct light radiation:

-Never turn the unit on if any of the lenses or the glass lenses protection is damaged.
-Never look directly the LEDs when they are on.

6.4 Safety:

-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.
-Always use a second safety chain to sustain the weight of the unit in case of the failure of the main fixing point.
-The external surface of the unit, at various points, may exceed 80°C.
Never handle the unit until it's on.
-Never install the fixture in an enclosed area lacking sufficient air flow.
-The ambient temperature should not exceed 40°C.

6.5 Level of protection against the penetration of solid and liquid matter:

-The projector is classified as an outdoor appliance and its protection level against the penetration of solid and liquid matter is IP 65.

.7- VOLTAGE AND FREQUENCY:

DELTA 12 can operate at 90-260 V AC / 50 or 60 Hz.

8- INSTALLATION:

DELTA 12 may be either floor or ceiling mounted.
For floor mounting installations, the unit is supplied with four rubber mounting feet on the base.
For ceiling mounted installations, we reccommend the use of appropriate clamps to fix the unit to the mounting surface.
The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hung it. The structure should also be sufficiently rigid so as not to move or shake whilst the DELTA 12 is moving.
The DELTA 12 is fitted with 7 fixing points on the bottom used to attach accessories (clamps, hooks, etc.)
.

8.1 Safety cable:

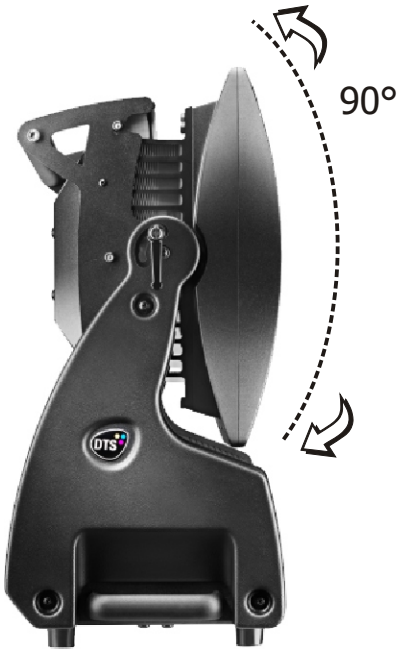
We recommend the use of a safety cable or chain connected to the DELTA 12 and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail.
Make sure that the iron cable or chain can bear the weight of the entire unit.
You may attach the safety chain to the holes located on the base of the fixture.

8.2- Protection against liquids

If IP 65 protection is impaired for any reason, do not expose this product to external atmospheric agents, because it could be damaged.

8.3- Movement

The projector has a maximum movement of 90° for Tilt.
Do not place any obstructions in the path of the projector's movement.



WARNING
Do not place any object in the path of the projector's movement

8.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.

Minimum distance from the object being illuminated is 1 MT.

8.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on the head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.
Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

8.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow.
The ambient temperature should not exceed 40°C.

9- MAINS CONNECTION:

DELTA 12 can operate at 90-260 V AC / 50 or 60 Hz.
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.
For connection purposes, ensure that your plug can support 6 amps at 110V and 3 amps at 230V each unit connected.
Strict adherence to regulatory norms is strongly recommended.

03.LDF006.F08 03.LDF006.FW08
03.LDF006.F12 03.LDF006.FW12
03.LDF006.F25 03.LDF006.FW25
03.LDF006.F45 03.LDF006.FW45

03.LDF006.F12WS (WIRELESS DMX READY)
03.LDF006.F25WS (WIRELESS DMX READY)
03.LDF006.F45WS (WIRELESS DMX READY)

9.1 Protection:

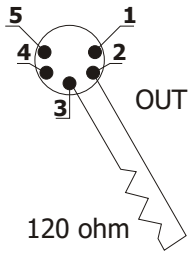
The use of a thermal magnetic circuit breaker is recommended for each DELTA 12.
A good earth connection is essential for the correct operation of the projector.

10- DMX SIGNAL CONNECTION

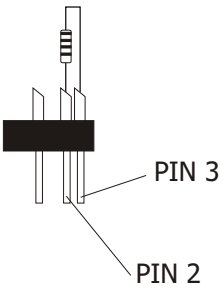
The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened ø 0.5 mm cable and a XLR 5 or 3 pins connector. Ensure that the conductors do not touch each other.
Do not connect the cable ground to the XLR chassy.
The plug housing must be isolated.
Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.
The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor between pin 2 and 3.
The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



Please note that the XLR connectors installed on the DELTA 12 have an IP20 protection rate.
Thus, for any application where an IP65 rate is needed, the XLR connectors must be protected within an IP65-rated container.

10.1 DMX Addresses:

DELTA 12 can be used in 3 different DMX modes: 10 DMX control channels, 6 DMX control channels or 15 DMX control channels.
Here below is described the DMX channels addressing for the controller when DELTA 12 is set to 10 DMX control channels :

Projector 1	A001	
Projector 2	A011	If you want to select the next projector, just add "10"
Projector 3	A021	
…..	A….	
projector 6	A051	

10.2 Selecting the DMX address:

1) Press the UP-DOWN key until you reach the required DMX address.
The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

11- FIRMWARE UPDATING

Warning:
This procedure require a base knolewge of computer applications and Windows Hyperterminal program. **Please refer to an authorised D.T.S. service centre.**

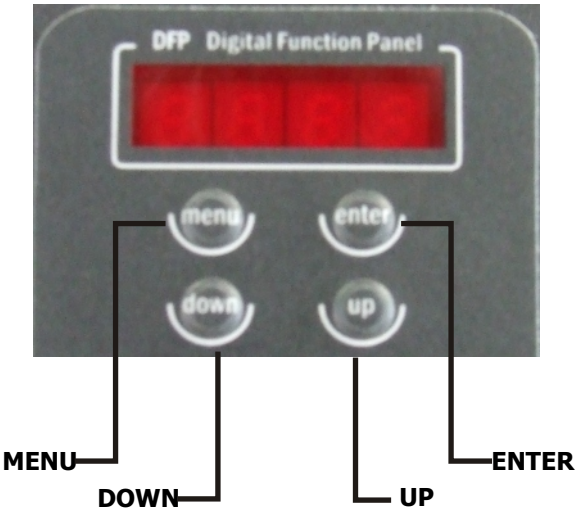
To update the software version of the DELTA 12 you need:
D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
USB-DMX Driver for the D.T.S. RED BOX interface.
D.T.S. Firmware upgrade utility program.
(The driver and the installation procedure are available in our web site www.dts-lighting.it)

Updating the software version.
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using D.T.S. Firmware upgrade utility program.

It will be possible to download the software from the reserved area of D.T.S. web site:
Www.dts-lighting.it.

12- DISPLAY FUNCTIONS



DISPLAY FUNCTIONS

The DELTA 12 display panel shows all the available functions. Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.
NOTE: the symbol ☞ shows which key has to be pushed to obtain the desired function.

Software version 2.20

A001 — MENU ☞ Up-Down ☞ dISP — ENTER ☞ Up-Down ☞ POSI — ENTER ☞ Up-Down ☞

REVERSE DISPLAY
Reverses display's reading depending on the mounting position (on the ground or suspended).

- AA — Floor position — ENTER ☞
- UU — Suspension position — ENTER ☞

Up-Down ☞ StbY — ENTER ☞ Up-Down ☞

DISPLAY STAND BY
To turn off the display (after 5 seconds) Or leave it always on.

- oFF — Display OFF — ENTER ☞
- on — Display always ON — ENTER ☞

MENU ☞ Up-Down ☞ nOdE — ENTER ☞ Up-Down ☞

DMX MODE
To select DMX mode: 10 ch (Default), 6 ch, 15 ch and MACRO mode

MACRO
MACRO Function, enable channel mapping macro rainbow effects
STD (default)

- 10CH — 10 CHANNELS — ENTER ☞ — Default
- Up-Down ☞ 6CH — 6 CHANNELS — ENTER ☞
- Up-Down ☞ 15CH — 15 CHANNELS — ENTER ☞

Up-Down ☞ nACr — ENTER ☞ Up-Down ☞

- Std — ENTER ☞ — No rainbow macros (Default)
- EHt — ENTER ☞ — Rainbow macros activated

MENU Up-Down **LEd** ENTER Up-Down **rEd** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

LED
RGBA Min/Max, Smooth, Compression, Sync level values settings and Boost mode

RGBA MINIMUM VALUES
This menu allow to select the minimum levels for Red, Green, Blue and Amber

Up-Down **GrEE** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

RGBA MAXIMUM VALUES
This menu allow to select the maximum levels for Red, Green, Blue and Amber

These settings have priority on Master Dimmer (DMX channel 2)

Up-Down **bLUE** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

SMOOTH VALUE
This menu allow to select the value of the delay (in milliseconds) for RGBA and Dimmer channels reaction to DMX or Program variation.
Off = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

Up-Down **AMbr** ENTER Up-Down **MIn** Default = 0 ENTER

MAH Default = 100 ENTER

Up-Down **SMtH** ENTER Up-Down **4** Range = Off - 20 Default = 4 ENTER

COMPRESSION
This menu allow to select between Linear current output or Quadratic current output for LEDs
Default = Linear

Up-Down **COMP** ENTER Up-Down **LInE** Linear = Linear current output ENTER

QUAd Quadratic = Linear light output ENTER

SYNC
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings

Up-Down **SYnc** ENTER Up-Down **610** Range = 610 Hz -10 KHz Default = 610 Hz ENTER

BOOST DRIVING
This menu allow to increase the LED's current from 350 mA to 500 mA

Up-Down **bSt** ENTER Up-Down **On** With BOOST active, the LED's current is setted to 500 mA (30% more gain). Default = Enabled

Up-Down **OFF**

MENU Up-Down **AUtO** ENTER **SUrE** ENTER Up-Down **ChPr** ENTER **SPEE** Up-Down **0010** ENTER

WAIt **0010**

AUTOMATIC MODE
Automatic demo game without DMX controller

ChPr
Chase with 16 steps previously created in REC MODE
Speed and Wait time selectable by user

CUPr ENTER **rEd** Up-Down **120** ENTER

GrEE **255**

bLUE **104**

AMbr **104**

CUPr
RGB values selectable by user

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

rAIn ENTER **SPEE** Up-Down **0010** ENTER

CU01-CU16
Color Macros as on DMX channel 8 (Macro)

cU01 ENTER Up-Down ENTER

cU02

cU16

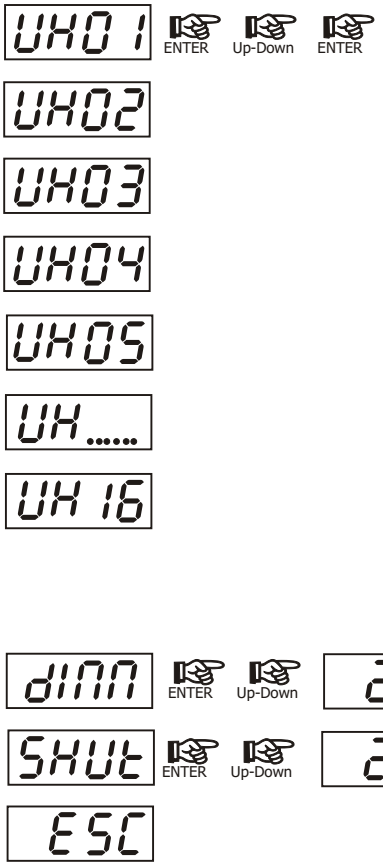
AUTOMATIC MODE
Automatic demo game without DMX controller

WHITE MACROS
16 macros for White colour from 2000°K to 7200°K

DIMMER
Dimmer level selectable by user as on DMX channel 2 (Dimmer)
Dimmer level is active for all the programs and macros

SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
Esc from Automatic Mode Menu



REC MODE
In DMX Recorder Mode, it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be setted to 10 DMX channels mode

DMX Recorder Mode
For the programming of ChPr by using a DMX controller, besides the 10 channels necessary to control the unit a further 3 DMX channels are needed.
So that in RECORDER mode (via DMX) the unit will need 13 channels to be correctly programmed.
The three new DMX channels are:

DMX channel 11 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded). It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed.

MENU Up-Down SLAU ENTER SUrE ENTER Up-Down SLU ENTER

ESC

SLAVE MODE
Slave mode for ChPr program.
All slave units will be
synchronised with master unit,
running their own Chpr program.

MENU Up-Down UdMX ENTER Up-Down SEL ENTER Up-Down On ENTER WIRELESS DMX SYSTEM ENABLED

OFF WIRELESS DMX SYSTEM DISABLED

WIRELESS DMX
Wieless DMX enabled / disabled.
By activating WDMX MODE, it will
be possible to control DELTA 12 via
D.T.S. ANTENNA Wireless DMX
Transmitter (cod. 03.E1271).
WIRELESS DMX system on DELTA 12 is available on request.

NOTE:
Wireless DMX receiver card needed (cod. 03.LA.012).
External IP65 2dbi omnidirectional Antenna needed (cod. 0508A040)

UnLH ENTER UNLINK = LOG OUT

Logging on DELTA 12 (WIRELESS DMX must be enabled on DELTA 12 unit) UdMX ENTER SEL ENTER Up-Down On ENTER

To log on the Delta 12 in the WIRELESS system simply press and quickly release the function button on the transmitter .
The transmitter will start flashing rapidly red/green scanning for new free receivers / DELTA 12 units. When a DELTA 12 logs on to the transmitter the LINK green light on transmitter starts to flash rapidly.
After approximately 10 seconds the transmitter will jump back to normal mode and continue transmitting data. The DELTA 12 now try to synchronize to the transmitter.
When synchronized to the transmitter, 2 different modes are possible:
1. Antenna transmitter has detected and transmits a DMX signal, in this mode a solid green light is seen on the transmitter and solid display is seen on DELTA 12.
2. No DMX signal connected, the Antenna transmitter will flash red/green; display blinking on DELTA 12.

To log DELTA 12 off from a transmitter simply select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When DELTA 12 is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out a DELTA 12.
Select UNLINK function UnLH under WIRELESS DMX MENU UdMX and press ENTER.
When DELTA 12 is logged off the display is blinking, meaning its available for log in on a new transmitter.

Logging out all DELTA 12 linked to a transmitter.
Press and hold the function button of the transmitter for about 3 seconds.
When the display is blinking on DELTA 12, it mean that the units are logged out.

Transmitter, LEDs Status:
Flashing red/green, no dmx connected.
Solid green, dmx signal detected and transmitted.
Fast flashing red/green, log in mode (every free DELTA 12 unit, not logged in to any other transmitter, will be logged on)

DELTA 12, Status:
Display blinking, not logged on to a transmitter (free).
Solid display, logged on to a transmitter and receiving dmx data.

MENU Up-Down ENEr ENTER Up-Down SEL ENTER Up-Down On ENTER

OFF ENTER Default = OFF

UHIt ENTER Default = White 1

dIMM ENTER Default = 255

EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 pre-programmed WHITE cues that will then ran if DMX signal is missing or not available.
Usefull for Emergency EXIT ilumination on public areas.

MENU Up-Down dFSE ENTER SUrE ENTER

DEFAULT
To restore default settings

MENU Up-Down tEMP ENTER Up-Down 027.0

TEMPERATURE
Unit temperature

MENU Up-Down FAn ENTER 24 ENTER

FAN
Fan max speed regulation
Off (fan always off) -12-14-16-18-20-22-24 Volt

MENU Up-Down tIME ENTER Up-Down rEd ENTER

GrEE

bLUE

ANbr

Unit

LIFE TIME
This menu show the total unit life time and the RGBA life time

---

MENU Up-Down tESt ENTER Not yet activated

TEST MODE
RGBA colours test with rainbow

MENU Up-Down SOFt ENTER U.2.20

SOFTWARE
Software version

13-AUTOMATIC OPERATION (AUTO)

DELTA 12 can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.

To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.
Now it is possible to choose between the different pre-programmed games (CUPr-RAIn-CU01/CU16-Wh01/Wh16) or ChPr which is user programmable through REC mode. To confirm game activation press ENTER on the selected GAME.

13.1 CUPr-RAIn-CU01/CU16-Wh01/Wh16

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other units have to be placed in 10 channels DMX mode (MODE 10CH) and the DMX address should be set at A001.
For RaIn (rainbow) game it is possible to select the speed for the colour changhing (SPEE).
DIMMER function (in AUTOMATIC MODE) is active for all the programs.
SHUTTER function (in AUTOMATIC MODE) is active only for CU01/CU16 and Wh01/Wh16 macros.

13.2 ChPr MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to Slave mode (SLAV), selectable through the menu. In this way all the Slave units will be synchronised with the master and running their own ChPr game.
On the master unit it is possible to vary the Speed time (SPEE) for the colour changhing and the Wait time (UAIt) between the steps.
Speed time and Wait time on the Master, have priority on the slave units.
NB: It is possible to run GA.Pr on the other units even though these do not have GA.Pr programmed. You can do this by setting the units to 10 channels DMX mode (MODE 10CH) and selecting DMX address A001.

13.3 Rec mode

It is possible to program your own game on DELTA 12 that will then run it in AUTO mode (ChPr).
Each unit can have its own programmed game.
In REC mode the unit must be set to 10 DMX channels mode.
To program the ChPr by using a DMX controller, you need 3 more channels in addition to the 10 channels necessary to control the unit.
So that in RECORDER mode (via DMX) the unit will need 13 DMX channels to be correctly programmed.
The three new DMX channels are:

DMX channel 11 = SCENES channel
From 0-10 = no function (r001)
From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:
-From 0-19 = no function
-From 20-234 the unit runs the configuration given by the received input DMX values.
With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.
-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.
With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel
Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded). It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed.

14- PERIODIC CLEANING

Front lenses Glass:
The dust can reduce the luminous output substantially. Regularly clean the front lenses glass using a soft cotton cloth, dampened with a specialist glasses cleaning solution.

15- PERIODIC CONTROLS

Mechanical parts:
Periodically check all mechanical parts and the gaskets. Please refer to an authorised D.T.S. Service centre for any operation involving of the unit if needed.

Electrical components:
Check for unit correct earthing. Please refer to an authorised D.T.S. Service centre for any operation involving of the unit if needed.

Fuse replacement:
Locate the fuse, which protect the electronics, in the base of the DELTA 12.
Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type (6,3A T) if necessary.

Attention: Disconnect mains power prior to remove the fuse to be tested.

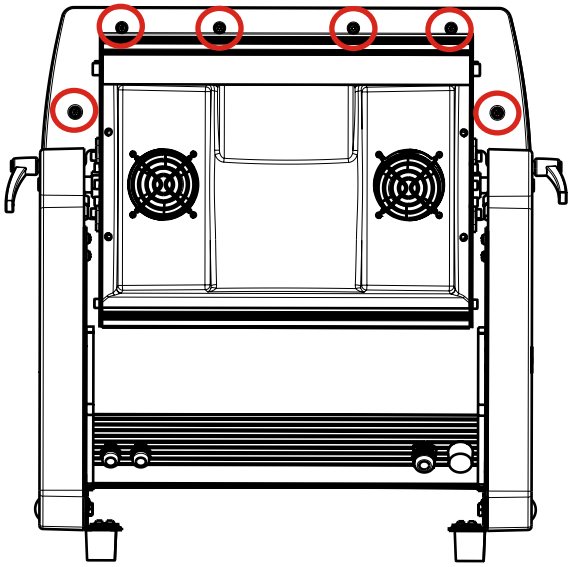
16- REPLACING THE LENSES

- Lenses set Ultra-Narrow (D.T.S. Code: 03.LK.130)
- Lenses set Narrow (D.T.S. Code: 03.LK.127)
- Lenses set Medium flood (D.T.S. Code: 03.LK.128)
- Lenses set Wide flood (D.T.S. Code: 03.LK.129)

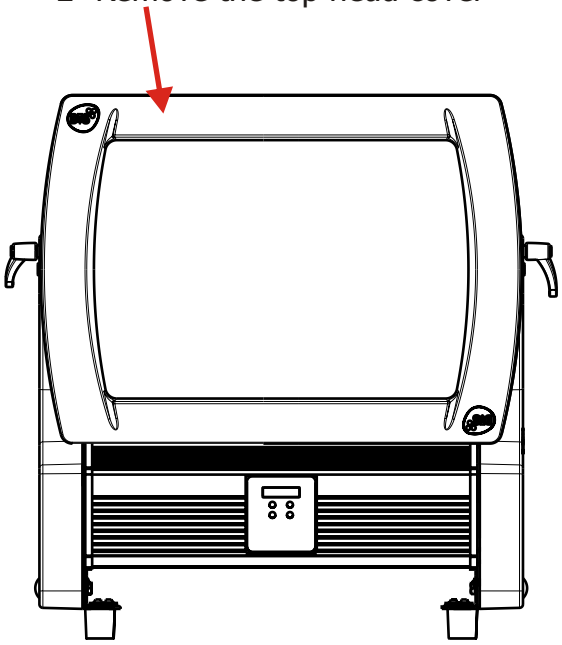
Attention: The lenses replacement must be made by D.T.S. Personnel or experienced person. Wrong manoeuvres can void the IP 65 protection.

To replace the lenses sets proceed as follow:

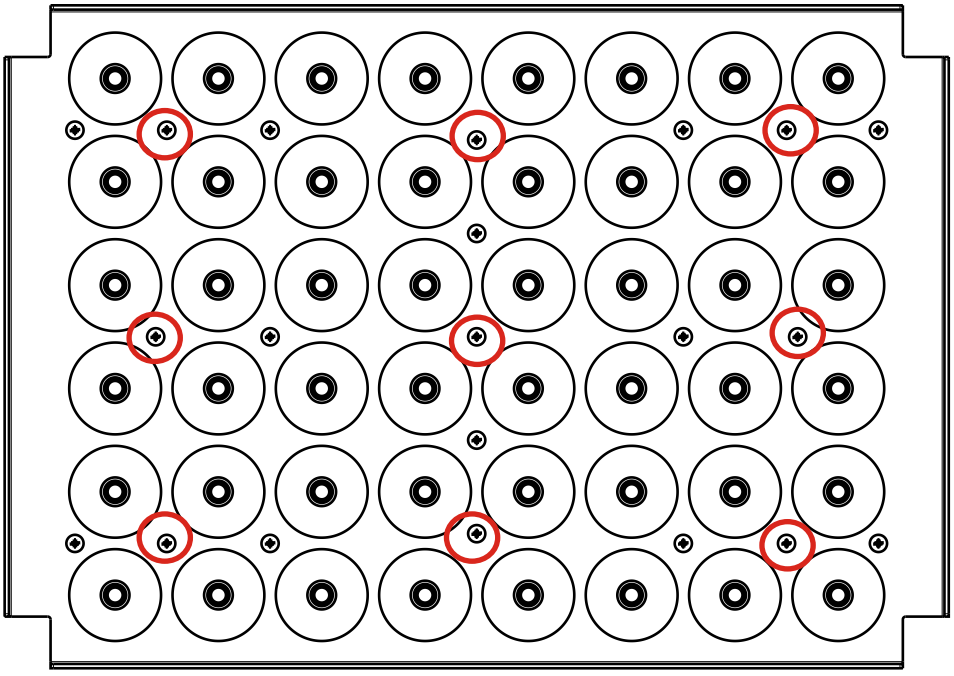
1- Remove these 6 screws on both Sides of the rear head assembly



2- Remove the top head cover



3- Loose these 9 screws and remove the old lenses set, then apply the new lenses set and tighten the screws previously removed.



4- Put in place the top head cover and tighten the 6 screws on both sides of the rear head assembly previously removed.

17-DMX PROTOCOL

DELTA 12 FC

10 CHANNELS MODE (Default)

1 **SHUTTER**
2 **DIMMER**
3 **RED**
4 **GREEN**
5 **BLUE**
6 **AMBER**
7 **WHITE (Pre-programmed whites at different colour temperatures)**
8 **CTC**
9 **COLOURS MACRO**
10 **FUNCTIONS**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBW active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue-White at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGBW levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

DMX CHANNEL	8	Parameter: **CTC (Colour temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 7 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 colour temp. Correction Macros: 0= 2700°K / 128= 4500°K / 255= 6500°K**

IF CHANNEL 7 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGBW linear Hue correction**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF:

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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	10	Parameter: **FUNCTIONS (Recall, Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 7 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 7 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

DELTA 12 FC

6 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **RED**
4 **GREEN**
5 **BLUE**
6 **AMBER**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBW active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DELTA 12 FC

15 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **DIMMER FINE**
4 **RED**
5 **RED FINE**
6 **GREEN**
7 **GREEN FINE**
8 **BLUE**
9 **BLUE FINE**
10 **AMBER**
11 **AMBER FINE**
12 **WHITE (Pre-programmed whites at different colour temperatures)**
13 **CTC**
14 **COLOURS MACRO**
15 **FUNCTIONS**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBW active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **DIMMER FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	4	Parameter: **RED**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **RED FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **GREEN**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **GREEN FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	8	Parameter: **BLUE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	9	Parameter: **BLUE FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	10	Parameter: **AMBER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	11	Parameter: **AMBER FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	12	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (Red-Green-Blue-White at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 15 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

IF CHANNEL 15 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGBW levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

DMX CHANNEL	13	Parameter: **CTC (Colour temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 12 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 colour temp. Correction Macros: 0= 2700°K / 128= 4500°K / 255= 6500°K**

IF CHANNEL 12 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGBW linear Hue correction**

DMX CHANNEL	14	Parameter: **COLOUR MACROS**

IF:

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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	14	Parameter: **COLOUR MACROS**

IF: MENU Up-Down nodE ENTER Up-Down nACr ENTER Up-Down EHt ENTER **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	15	Parameter: **FUNCTIONS (Recall, Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 12 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 12 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

17-DMX PROTOCOL

DELTA 12 CT

10 CHANNELS MODE (Default)

1 **SHUTTER**
2 **DIMMER**
3 **RED = WHITE 1**
4 **GREEN = WHITE 2**
5 **BLUE = WHITE 3**
6 **AMBER = WHITE 4**
7 **WHITE (Pre-programmed whites at different colour temperatures)**
8 **CTC**
9 **COLOURS MACRO**
10 **FUNCTIONS**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED = WHITE 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN = WHITE 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE = WHITE 3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER = WHITE 4**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (White1-White2-White3-White4 at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGBA levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

DMX CHANNEL	8	Parameter: **CTC (Colour temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 7 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 colour temp. Correction Macros: 0= 2700°K / 128= 4500°K / 255= 6500°K**

IF CHANNEL 7 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGBA linear Hue correction**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF: MENU Up-Down nodE ENTER Up-Down nACr ENTER Up-Down Std ENTER **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	9	Parameter: **COLOUR MACROS**

IF:

PLEASE CHECK PAGE 12

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	10	Parameter: **FUNCTIONS (Recall, Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 7 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 7 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

DELTA 12 CT

6 CHANNELS MODE

1 **SHUTTER**
2 **DIMMER**
3 **RED = WHITE 1**
4 **GREEN = WHITE 2**
5 **BLUE = WHITE 3**
6 **AMBER = WHITE 4**

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED = WHITE 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN = WHITE 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE = WHITE 3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **AMBER = WHITE 4**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DELTA 12 CT

15 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 DIMMER FINE
4 RED = WHITE 1
5 RED FINE = WHITE 1 FINE
6 GREEN = WHITE 2
7 GREEN FINE = WHITE 2 FINE
8 BLUE = WHITE 3
9 BLUE FINE = WHITE 3 FINE
10 AMBER = WHITE 4
11 AMBER FINE = WHITE 4 FINE
12 WHITE (Pre-programmed whites at different colour temperatures)
13 CTC
14 COLOURS MACRO
15 FUNCTIONS

DMX CHANNEL	1	Parameter: **SHUTTER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	**5**				**Black-out**
10-19	**14**				**Open**
20-29	**24**				**Black-out**
30-119					**Strobe at variable speed from slow to fast (3,27 s - 30 ms)**
120-149					**Pulse open at variable speed from slow to fast (42,6 s - 120 ms)**
150-179					**Pulse close at variable speed from slow to fast (42,6 s - 120 ms)**
180-204	**192**				**Random Strobe (Master and RGBA active)**
205-229	**218**				**Random Strobe (Full)**
230-255	**240**				**Open**

DMX CHANNEL	2	Parameter: **DIMMER**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **DIMMER FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional dimmer**

DMX CHANNEL	4	Parameter: **RED = WHITE 1**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **RED FINE = WHITE 1 FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **GREEN = WHITE 2**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **GREEN FINE = WHITE 2 FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	8	Parameter: **BLUE = WHITE 3**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	9	Parameter: **BLUE FINE = WHITE 3 FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	10	Parameter: **AMBER = WHITE 4**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	11	Parameter: **AMBER FINE = WHITE 4 FINE**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					**Proportional colour**

DMX CHANNEL	12	Parameter: **WHITE (Pre-programmed White at diff. color temperature)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	**23**				**No Function**
56-105	**80**				**Full (White1-White2-White3-White4 at Full)**
106-155	**130**				**White DTS**

IF CHANNEL 15 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

IF CHANNEL 15 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	**180**	**Custom White Create (RGBA levels selectable by DMX)**
206-255	**225**	**White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2700°K - 6500°K)**

DMX CHANNEL	13	Parameter: **CTC (Colour temperature correction)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function

IF CHANNEL 12 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	**43 colour temp. Correction Macros: 0= 2700°K / 128= 4500°K / 255= 6500°K**

IF CHANNEL 12 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	**Smooth RGBA linear Hue correction**

DMX CHANNEL	14	Parameter: **COLOUR MACROS**

IF:

PLEASE CHECK PAGE 12

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-29					**Macro 1**
30-44					**Macro 2**
45-59					**Macro 3**
60-74					**Macro 4**
75-89					**Macro 5**
90-104					**Macro 6**
105-119					**Macro 7**
120-134					**Macro 8**
135-149					**Macro 9**
150-164					**Macro 10**
165-179					**Macro 11**
180-194					**Macro 12**
195-209					**Macro 13**
210-225					**Macro 14**
226-239					**Macro 15**
240-255					**Macro 16**

DMX CHANNEL	14	Parameter: **COLOUR MACROS**

IF: **PLEASE CHECK PAGE 12**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					**No Function**
15-22					**Macro 1**
23-30					**Macro 2**
31-38					**Macro 3**
39-46					**Macro 4**
47-54					**Macro 5**
55-62					**Macro 6**
63-70					**Macro 7**
71-78					**Macro 8**
79-86					**Macro 9**
87-94					**Macro 10**
95-102					**Macro 11**
103-110					**Macro 12**
111-118					**Macro 13**
119-126					**Macro 14**
127-134					**Macro 15**
135-142					**Macro 16**
143-150					**Rainbow Speed 1 (1 Sec.)**
151-158					**Rainbow Speed 2 (5 Sec.)**
159-166					**Rainbow Speed 3 (10 Sec.)**
167-174					**Rainbow Speed 4 (20 Sec.)**
175-182					**Rainbow Speed 5 (30 Sec.)**
183-190					**Rainbow Speed 6 (60 Sec.)**
191-198					**Rainbow Speed 7 (120 Sec.)**
199-206					**Rainbow Speed 8 (180 Sec.)**
207-214					**Random Speed 1 (0.5 sec.)**
215-222					**Random Speed 2 (1 Sec.)**
223-230					**Random Speed 3 (2 Sec.)**
231-238					**Random Speed 4 (5 Sec.)**
239-246					**Random Speed 5 (10 Sec.)**
247-255					**Random Speed 6 (30 Sec.)**

DMX CHANNEL	15	Parameter: **FUNCTIONS (Recall, Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 12 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 12 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

NOTES

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